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## PATENT ABSTRACTS OF JAPAN

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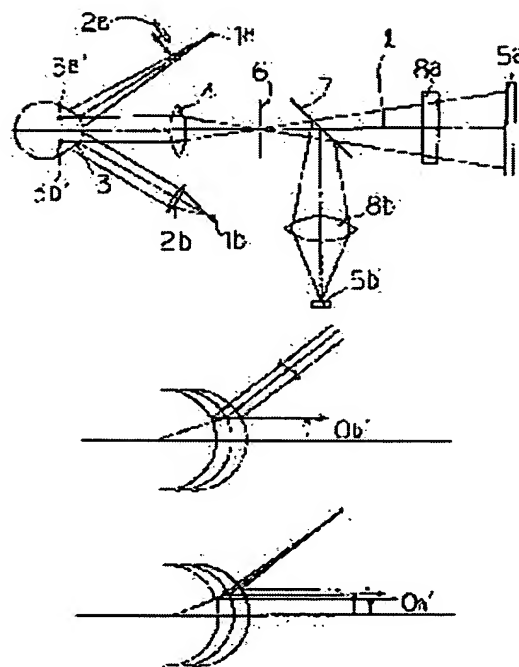
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## (54) ALIGNMENT DETECTOR

## (57)Abstract:

PURPOSE: To detect an alignment state accurately and easily by a method wherein a projection optical system is provided to project a pair of indexes with different distances to eyes to be inspected to a specimen to detect a reflection image of the indexes from the specimen with a detection optical system and the alignment state is determined by a judging means based on the results of the detection.

CONSTITUTION: Spot light sources 1a and 1b which emit near infrared rays are arranged at a position separated at an equal distance from a measuring optical axis at an equal interval therefrom and a projection optical axis is at a specified angle with the measuring optical axis. To place the spot light source 1b at infinity, a collimator lens 2b is provided in a projection optical path and a collimator lens 2a is provided in an optical path of the spot light source 1a as being allowed to insert or remove. As the length 3b' from the center point is given as image of the light source 1b at an infinite distance optically. Ob' remains unchanged regardless of deviation of the apparatus in the direction of focusing but the length of Oa' changes as the 3a' is given as an image of the light source 1a at a finite distance. The distance of eyes to be inspected from an imagery lens 4 is set at  $Oa'/Ob'=\alpha$  to detect deviation in focusing from a difference in size of the results.



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